

Remarks

Claims 1-24 are pending in the application; claims 25-34 are withdrawn from consideration.

Claims 1-4, 6-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch et al. (USPGPUB 20040028009, hereinafter Dorenbosch) in view of Oishi (US PGPUB 20020154624, hereinafter Oishi) and VIP: A protocol providing Host Mobility (Communications of the ACM, August 1994, hereinafter VIP).

Claims 18, 19, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi in view of VIP.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and modified by Oishi as applied to claim 4 above, and further in view of Leung (US Patent 6487605, hereinafter Leung).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and modified by Oishi as applied to claim 12 above, and further in view of Rezaiifar (US PGPUB 20040085931, hereinafter Rezaiifar).

Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and modified by Oishi as applied to claim 1 above, and further in view of Su (US PGPUB 20030172142, hereinafter Su).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi and modified by VIP as applied to claim 18 above, and further in view of Gillies et al. (US PGPUB 20030212821, hereinafter Gillies).

Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi modified by VIP as applied to claim 18 above, and further in view of Su.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code

or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

Rejection Under 35 U.S.C. 103(a)

Claims 1-4, 6-13, and 16

Claims 1-4, 6-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch in view of Oishi and VIP. The rejection is traversed.

As discussed in Applicants' response to the Office Action mailed August 8, 2007 Dorenbosch and Oishi, alone or in combination, fail to teach or suggest Applicants' invention of claim 1 as a whole.

Dorenbosch discloses a system for effecting a seamless handoff between IP connections. Oishi discloses a translator connected to a first network for transferring data in a first protocol, to a second network for transferring data in a second protocol, and to a translation server to which other translators are connected, for retaining translation information for a protocol translation between the first protocol and second protocol.

(Oishi, Abstract).

As admitted by the Examiner, however, Dorenbosch and Oishi, alone or in combination, fail to teach or suggest “changing the actual IP address of the mobile node used by the NAT device, and a rule for mapping the actual IP address to the virtual IP address, without varying the virtual IP address of the mobile node used by the corresponding node” as claimed in Applicants’ claim 1.

As such, the Examiner cites VIP, asserting that VIP discloses an invariant virtual IP address and, therefore, that the combination of Dorenbosch, Oishi, and VIP teaches Applicants’ claim 1. Applicants respectfully submit that VIP fails to bridge the substantial gap between Dorenbosch and Oishi and Applicant’s claim 1.

As claimed in Applicants’ claim 1, the virtual IP address associated with the mobile node is an invariant virtual IP address and, thus, Applicants’ claim 1 changes a rule for mapping an actual IP address of a mobile node to an invariant virtual IP address of the mobile node.

As described in Applicants’ previous response, in contrast to Applicants’ claim 1, Oishi describes a translation rule for mapping a source IP address of a mobile node to a variant virtual source IP address, which is the IP address of the translator through which the mobile terminal is communicating. As described in Oishi, the terminal 41 has two associated IP addresses: a home IP address given to terminal 41 by the home network 1 (denoted as IP address t6) and a care of address given to terminal 41 by foreign network 2 (denoted as IP address p6). (Oishi, Para. 0085). A translation rule is maintained, in translator 12, which maps the source IP address t6 of terminal 41 to a virtual source IP address 14, which, as taught in Oishi, is an IP address of translator 12. This translation rule is depicted as the first entry in FIG. 22 of Oishi. Applicants respectfully note that the virtual source IP address taught in Oishi is not invariant. Rather, as seen from a comparison of the first and fourth entries of FIG. 22, even when the source IP address remains unchanged (illustratively, the source IP address is t6 in both entries because terminal 41 is still being served by the home network 1), the virtual source IP address changes (illustratively, the virtual source IP address is 14 in the first entry and m4 in the fourth entry). Thus, in this case, the virtual source IP address is not invariant. Rather, the virtual source IP address changed.

In the Office Action, since Oishi discloses a virtual IP address that varies, the Examiner then cites VIP, which discloses an invariant virtual IP address. Thus, since Oishi discloses a system in which the virtual IP address changes and VIP discloses a system in which the virtual IP address does not change, Applicants respectfully submit that Oishi and VIP cannot be operably combined. Rather, these references clearly teach away from each other.

One skilled in the art would not look to the invariant virtual IP address of VIP to modify the system of Oishi, which clearly depends on changing of the virtual IP address so that the mobile node can move between networks and associate with different translators. Similarly, one skilled in the art would not look to the changing virtual IP address of Oishi to modify the system of VIP, which clearly depends on the invariant virtual IP address in order to support the VIP protocol.

Thus, Oishi and VIP are clearly at odds with each other and cannot be operably combined. Modification of Oishi to use the invariant virtual IP address of VIP would render Oishi inoperable because Oishi clearly relies on the changing of the virtual IP address in order to use the translators of Oishi. Similarly, Modification of VIP to use the variable virtual IP address of Oishi would render VIP inoperable because VIP clearly relies on the invariant virtual IP address in order to support the VIP protocol.

Thus, Applicants respectfully submit that Oishi and VIP cannot be operably combined.

Therefore, since Oishi and VIP cannot be operably combined, and, further, since the combination of Dorenbosch and Oishi fail to teach or suggest Applicants' claim 1 as a whole and the combination of Dorenbosch and VIP fail to teach or suggest Applicants' claim 1 as a whole, Applicants' respectfully submit that Applicants' claim 1 is allowable under 35 U.S.C. §103.

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Thus, it is impermissible to focus either on the "gist" or "core" of the invention. Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties

and the problem it solves. Dorenbosch, Oishi and VIP, alone or in combination, fail to teach or suggest Applicants' claim 1, as a whole.

As such, independent claim 1 is patentable over Dorenbosch in view of Oishi and VIP under 35 U.S.C. 103(a).

Since all of the dependent claims that depend from independent claim 1 include all the limitations of claim 1, each such dependent claim is also allowable over Dorenbosch in view of Oishi and VIP. Therefore, the rejection should be withdrawn.

Claims 18, 19, 21 and 14

Claims 18, 19, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi in view of VIP. The rejection is traversed.

As described herein, Oishi discloses a translator connected to a first network for transferring data in a first protocol, to a second network for transferring data in a second protocol, and to a translation server to which other translators are connected, for retaining translation information for a protocol translation between the first protocol and second protocol. (Oishi, Abstract).

Oishi, however, fails to teach or suggest Applicants' claim 18, as a whole. Namely, Oishi fails to teach or suggest a mobile node having "an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node," as claimed in Applicants' claim 18. Specifically, claim 18 recites:

18. A mobile node, comprising:
 - a processor;
 - a network interface; and
 - a storage device having computer program code therein for execution by the processor, the computer program code including:
 - a network layer for transmitting and receiving packets; and
 - an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node, wherein the intermediate

driver permits the actual IP address to change when the mobile node moves intra-domain or inter-domain without a corresponding change in the virtual IP address. (Emphasis added).

Rather, Oishi merely describes how a mobile terminal (41) communicates with a terminal (42) via one or more translators (11, 12, 13) providing address translation functions. Oishi is devoid of any address translation functions being performed within a mobile terminal. Rather, Oishi describes different address translation functions performed by translators disposed between different IP networks. Although Oishi discloses use of two different IP addresses for a mobile terminal, Oishi is devoid of any teaching or suggestion of use of two different IP addresses within a mobile terminal. More specifically, Oishi is devoid of any teaching or suggestion of a mobile node supproting an intermediate driver that: (1) communicates with a network layer using a virtual IP address to identify the mobile node and (2) communicates with a network interface using a routable actual IP address to identify the mobile node.

In the Office Action, the Examiner states that "...Oishi teaches in FIG. 24 a sequence diagram in which the IPv6 mobile terminal in the foreign network originates a call, where t6 is an actual IP address and s6 is a virtual IP address..." (Office Action, Pg. 13 – Pg. 14, Emphasis added). Applicants respectfully note that, as disclosed in Oishi, t6 is an IP address of source terminal 41, while s6 is an IP address of destination terminal 42. Thus, address s6 has nothing to do with source terminal 41. This is clear at least from FIG. 24 of Oishi, which clearly shows that address s6 is related to address r4 of terminal 42. This portion of Oishi cited by the Examiner does not teach or suggest anything having to do with a driver of a mobile terminal, much less an intermediate driver as claimed in Applicants' claim 18.

In the Office Action, the Examiner further states that "Oishi further teaches two translators make translation rules for associating a new coa with a virtual destination IP address..." (Office Action, Pg. 14, Emphasis added). Applicants note that the translators of Oishi are not mobile nodes. Applicants further note that associating a COA address of one mobile terminal (mobile terminal 41 of Oishi) with a destination address of a different mobile terminal (destination mobile terminal 42 of Oishi), as disclosed in Oishi, does not teach or suggest anything having to do with a driver of a mobile node, much less an intermediate driver as claimed in Applicants' claim 18.

As such, for at least these reasons, Oishi fails to teach or suggest a mobile node having “an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node,” as claimed in Applicants’ claim 18.

Furthermore, VIP fails to bridge the substantial gap between Oishi and Applicants’ claim 18.

In general, VIP discloses a protocol that provides host mobility in the Internet, namely, Virtual Internet Protocol (VIP). More specifically, referring to Figure 9, VIP discloses that, when a VIP host moves from its home subnetwork, the VIP address of the VIP host remains unchanged while a temporary IP address is assigned to the VIP host. (VIP, Pg. 72, Middle Column).

VIP, however, alone or in combination of Oishi, fails to teach or suggest Applicants’ claim 18, as a whole. Namely, VIP fails to teach or suggest a mobile node having “an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node,” as claimed in Applicants’ claim 18.

Rather, VIP merely describes interactions between a mobile host and different gateways for routing packets between mobile hosts. Although VIP states that a VIP host may be assigned two IP addresses (namely, the VIP address and the temporary IP address), VIP is devoid of any teaching or suggestion of use of two different IP addresses within a mobile terminal. More specifically, Oishi is devoid of any teaching or suggestion of a mobile node having an intermediate driver that: (1) communicates with a network layer using a virtual IP address to identify the mobile node and (2) communicates with a network interface using a routable actual IP address to identify the mobile node.

As such, for at least these reasons, VIP fails to teach or suggest a mobile node having “an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify

the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node,” as claimed in Applicants’ claim 18.

Thus, since Oishi and VIP each fail to teach or suggest a mobile node having “an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node,” any permissible combination of Oishi and VIP (assuming such combination is even possible) must fail to teach or suggest a mobile node having “an intermediate driver that transmits packets to the network layer and receives packets from the network layer using a virtual internet protocol (IP) address to identify the mobile node, the intermediate driver transmitting packets to the network interface and receiving packets from the network interface using a routable actual IP address to identify the mobile node,” as claimed in Applicants’ claim 18.

Thus, Oishi and VIP, alone or in combination, fail to teach or suggest Applicants’ claim 18, as a whole.

As such, independent claim 18 is patentable over Oishi in view of VIP under 35 U.S.C. 103(a). Furthermore, since all of the dependent claims that depend from independent claim 18 include all the limitations of claim 18, each such dependent claim is also allowable over Oishi in view of VIP. Therefore, the rejection should be withdrawn.

Claims 5, 14, 15, 17, 20, 22 and 23

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and modified by Oishi as applied to claim 4 above, and further in view of Leung. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and modified by Oishi as applied to claim 12 above, and further in view of Rezaiifar. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and modified by Oishi as applied to claim 1 above, and further in view of Su. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi and

modified by VIP as applied to claim 18 above, and further in view of Gillies. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi modified by VIP as applied to claim 18 above, and further in view of Su. The rejections are traversed.

Since all of the dependent claims that depend from independent claims 1 and 18 include all the limitations of claims 1 and 18, each such dependent claim is also allowable over, respectively, Dorenbosch in view of Oishi and VIP and Oishi in view of VIP. Accordingly, any attempted combination of the Dorenbosch, Oishi and VIP references and the Oishi and VIP references with any other additional references, in a rejection against the dependent claims, would still result in a gap in the combined teachings in regards to the independent claims. Therefore, the rejections should be withdrawn.

Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: _____

2/27/08



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